DIRECTED NON-CYCLIC GRAPH WALKING SYSTEM AND METHOD

ABSTRACT OF THE INVENTION

A system and method for efficiently walking a directed non-cyclic graph of hierarchical data using multiple analysis tools. The graph walking system comprises: a system for binding a plurality of graph observers to a graph, wherein each graph observer is further bound to a set of node patterns and a set of node observers; graph walking logic for systematically walking through nodes within the graph, wherein the graph walking logic can be instructed by a first pruning system not to walk a set of sub-nodes of an encountered node; and a second pruning system that can be instructed by a node observer bound with an associated graph observer to deactivate the associated graph observer until the set of sub-nodes for the encountered node has been walked. The first pruning system will cause the set of sub-nodes not to be walked only if all of the plurality of graph observers have been deactivated.